DOCUMENT RESUME

ED 117 049 SP 009 745

AUTHOR Eskridge, Veronica L.
TITLE Placebo Effect upon Complex Reaction Time When Hypnotic Suggestibility is Controlled.
PUB DATE [75]
NOTE 11p.

EDRS PRICE MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS College Students; Females; Higher Education; *Motor Reactions; *Physiology; *Reaction Time
IDENTIFIERS Hypnotic Susceptibility; *Placebo Effect

ABSTRACT

This study was designed to investigate the effect of a placebo (sugar pill) accompanied by suggestions that the pill would either (1) improve performance as a stimulant or (2) cause a deterioration in performance as a depressant when the performance in question was the subjects' complex reaction time to a light stimulus. The Harvard Group Scale of Hypnotic Susceptibility (HGHS) was administered to 160 females enrolled in courses offered at the Department of Health and Physical Education for Women at Sam Houston State University during the fall semester of 1974 or the spring semester of 1975. Approximately equal members of physical education majors and other majors were tested. Thirty subjects scoring high hypnotic susceptibility and 30 subjects scoring low hypnotic susceptibility on the HGHS were located. Ten subjects of high hypnotic susceptibility were randomly assigned to each of the two experimental variables and the control group. The same assignment procedure was followed for the subjects of low hypnotic susceptibility. Individual pretests and posttests on complex reaction time were administered to each group. Analysis of the data indicated that no significant differences existed between any of the groups in question. (Author)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED117049

PLACEBO EFFECT UPON COMPLEX REACTION TIME WHEN HYPNOTIC SUGGESTIBILITY IS CONTROLLED

Veronica L. Eskridge, Ph.D.

Veronica L. Eskridge is an assistant professor in the Department of Health and Physical Education for Women, Sam Houston State University, Huntsville, Texas.

SP009 145

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"Placebo" is defined by Webster as a harmless unmedicated preparation given as a medicine to a patient merely to humor him, or used as a control in testing the efficacy of another, medicated substance. It has been discovered, however, that a placebo is not a good control because it is frequently as powerful as the medicated substance. A thorough survey of placebo usage revealed that in nearly 100 independent studies of 29 different symptoms and sicknesses, such as multiple sclerosis, cancer, psychosis, alcoholism, migraines, colds, rheumatism, and even constipation, pain reduction was achieved with an average of 27% of over 4,500 patients. (8) It would appear that merely believing that a placebo will have an effect, such as pain reduction, is sufficient to bring about major psychological reorganization. This phenomenon of reacting to the inert substance is referred to as the "placebo affect". Unfortunately, study of the placebo has been restricted predominantly to its effects on conditions of interest to the medical profession.

Those studies which have been conducted on placebo effects outside of the medical profession and/or in areas other than pain reduction have been disappointing. An example is Singer, et. al. (14). Students such as this have failed to verify the medical data demonstrating the positive effects supposedly possible with placebos. An important point, and one apparently overlooked, in most studies outside the medical profession, is that the placebo is an inert drug which will cause nothing to happen unless the "belief" in its efficacy is present. In other words, researchists should be interested in the effects of "placebo affect" rather than the effects of merely administering an inert substance. Toward this end a method must

be found to ascertain whether or not the subject believes the substance is potent. Asking does not appear to be sufficient.

A starting place for studying this phenomenon would be to consider the acceptance or belief in the placebo equivalent to the suggestion phenomenon. Many investigators of the suggestion phenomenon theorize that suggestion is directly related to the ability to yield an "hypnotic state". T.X. Barber (1,2, & 3), however, suggests that the major phenomena of hypnosis can be demonstrated without requiring an induction procedure of a special sort of state. "...it is unnecessary and unparsimonious to postulate an 'hypnotic state of consciousness' to explain response to suggestion..." (1, p. 57)

If the placebo effect is a suggestion phenomenon, and if the ability to yield suggestion phenomena is neither a universal phenomenon nor one that necessitates an hypnotic induction, then to effectively study the placebo phenomena one must control for levels of suggestibility. This has not previously been done.

METHODOLOGY

Subjects. Ss were volunteers contacted while attending various classes at Sam Houston State University. Ss were limited to those females over eighteen years of age who had no previous experience with hypnotic induction. Only those individuals found capable of meeting a minimum or maximum criteria of suggestibility took part in the placebo aspect of the study.

PROCEDURES

All volunteers were administered the Harvard Group Scale of Hypnotic Susceptibility (11) while in groups ranging in size from 15 - 20 individuals. Two hundred sixteen individuals were tested in this manner. Individuals identified as high or low in the ability to yield hypnotic suggestibility (on the possible 12 point scale having scored 8 or better for a high ranking or 3 or less for a low ranking) were randomly assigned to one of three experimental groups: (1) Placebo administered with suggestions of a stimulant (St), (2) Placebo administered with suggestions of a depressant (Dep), or (3) Control (Con).

Once identified Ss were contacted and appointments made for individual administration of the testing. Ss assigned to the experimental groups were informed that the study concerned the effects of "everyday" drugs upon reaction time, a time of great importance to many athletes. The St Group were told that the drug was caffeine equivalent to approximately 12 cups of coffee. The Dep Group were told that the drug was a bromide such as is found in most upset stomach remedies. The Con Group were merely told that the study concerned reaction time and were continually urged to react as quickly as possible. The terms "stimulant" and

"depressant" were constantly used throughout the contact with the appropriate Ss.

A pretest of complex reaction time to 4 different colored light stimuli with corresponding buttons[1] was given. Shortly thereafter the S was orally administered the placebo with the appropriate instructions of its contents. S was then asked to sit back and relax for 15 minutes while the "drug" was taking affect. Following the "ingestion" period the posttest on complex reaction time was given.

As a part of both the pre-test and the posttest, in an attempt to convince the Ss of the efficiency of the drug, measures of their blood pressure, pulse rate, and temperature were taken with much elaboration, though these measures were not recorded.

RESULTS

The results of the 2-way Analysis of Covariance are given in Table 1. No significance was located.

Insert Table 1

---

[1]The Lafayette Instrument Company Visual Choice #6302C with a Lafayette Instrument Company 15 volt shunt timer #20225ADW were the reaction time testing instruments.

DISCUSSION

With the implementation of necessary precautions and controls, the results of this experiment supported the findings of most psychomotor research which suggests no change in performance due to the administration of a placebo. Perhaps other researchers are correct in proposing that subject motivation is unusually high, by the very nature of the psychomotor task (14). Thus, incentives in addition to the actual testing situation tend to be ineffective. The placebo was not affective here because the task was a psychomotor one and a test situation was present. This is a plausible explanation for the lack of difference between the St Group and the Con Group but one which does not explain why the Dep Group did not differ.

On the other hand, one might conclude that the placebo has no power to affect complex reaction time to a light stimulus. This is an apparantly obvious and, by all means, a simple explanation for the results but one which leaves the reported medical findings and everyday observations of coaches concerning the placebo affect unexplained.

Though these are potential explanations for the findings perhaps the nature of man provides a more logical explanation. People have spent most of their lives learning to obey their doctor without question. Many learn the same lesson concerning their coaches. Hypnotists spend hours, if not days training and convincing their subjects of the efficacy of the hypnotic trance. Yet researchers spend 20 minutes at most attempting to persuade the subject of the potency of an inert drug and are then at a loss to explain why the subject rejected their suggestions.

In any case, since the phenomenon in question the placebo affect, was not apparently elicited, no conclusions can be drawn concerning its power or its relationship to suggestibility normally associated with hypnosis.

SELECTED BIBLIOGRAPHY

1. Barber, T. X. "Measuring 'Hypnotic-like' Suggestibility With and Without 'Hypnotic Induction': Psychometric Properties, Norms, and Variables Influencing Response to the Barber Suggestibility Scale (BSS)," Psychological Reports, 16 (June, 1965), 809-844.

2. _____. Hypnosis: A Scientific Approach. New York: Van Nostrand Reinold Company, 1969.

3. _____. "An Empirically-based Formulation of Hypnotism," American Journal of Clinical Hypnosis, 12 (October, 1969), 100-130.

4. Bernheim, H. M. Hypnosis and Suggestion in Psychotherapy: A Treatise on the Nature and Uses of Hypnotism. New Hyde Park, New York: University Books, 1963.

5. Braid, J. Neurypnology: or the Rationale of Nervous Sleep Considered in Relation with Animal Magnetism. London: John Churchill, 1843.

6. Eskridge, V. L. "The Effects of Limited Training in Hypnosis upon Reaction Time." Microfilm Publications, Eugene, Oregon, 1972.

7. _____. "Effects of Hypnotic and Placebo Suggestions On Performance of High and Low Hypnotically Susceptible Subjects," Microfilm Publications, Eugene, Oregon, 1972.

8. Haas, H., Fink, H. and Hartfelder, G. "Das Placebo Problem" Fortchritte der Arzneimittelforschung, 1 (1959), 279-454; A translation of selected parts appeared in the Psychopharmacology Service Center Bulletin. 8 (1963), 1-65.

9. Lowinger, P., and Dobie, S. "What Makes a Placebo Work?" Archives of General Psychiatry. 20 (1969), 84-88.

10. Orne, M. T. "The Nature of Hypnosis: Artifact and Essence," The Nature of Hypnosis: Selected Basic Readings. Edited by Ronald E. Shor and M. T. Orne. New York: Rinehart and Winston, Inc., 1965, pp. 89-123.

11. Shor, R. E., and Orne, E. C. Harvard Group Scale of Hypnotic Susceptibility. Palo Alto, California: Consulting Psychologists Press, 1962.

12. _____. "Norms on the Harvard Group Scale of Hypnotic Susceptibility, Form A," International Journal of Clinical and Experimental Hypnosis, 11 (January, 1963), 39-48.

13. _____. (ed.) The Nature of Hypnosis: Selected Basic Readings. New York: Holt, Rinehart and Winston, Inc., 1965.

14. Singer, R. N., Llewellyn, J., and Ellington, D. "Placebo and Competitive Placebo Effects on Motor Skill." Research Quarterly, 44 (March, 1973), 51-58.

15. Weitzenhoffer, A. M. Hypnotism: An Objective Study in Suggestibility. New York: Wiley, 1953.

16. Winer, B. J. Statistical Principles in Experimental Design. New York: McGraw-Hill Book Company, 1971.

TABLE I: ANALYSIS OF COVARIANCE FOR COMPLEX REACTION TIME

Source	SS	df	MS	F
A (Hyp)	0.0	1	0.0	0.0
B (Pl)	0.0005	2	0.00025	0.1932
AB	0.0006	2	0.0003	0.2318
Error	0.0686	53	0.00129	

$F_{.95}(1,53) = 4.08$ $F_{.95}(2,53) = 3.15$